

# **Development of Humanoid Robot**

The development of humanoid robots has been a prominent area of research and innovation, aimed at creating machines that can mimic human capabilities and interact seamlessly with the human world. This abstract provides an overview of the multifaceted journey in the development of humanoid robots, highlighting key aspects of their design, challenges faced, and potential applications. Humanoid robots are anthropomorphic machines designed to resemble the human form, possessing the ability to perform tasks that humans can do, such as walking, talking, and manipulating objects. These robots combine advances in mechanical engineering, artificial intelligence, and human-computer interaction to achieve their human-like functionalities. Furthermore, safety and ethics are paramount considerations. Ensuring that humanoid robots operate safely in human environments and adhere to ethical guidelines is an ongoing challenge. Striking the right balance between autonomy and control is essential to prevent unintended consequences. The development of humanoid robots has vast potential applications, including healthcare assistance for the elderly and disabled, enhancing industrial productivity, and supporting education and entertainment. The evolving landscape of robotics continues to reshape industries and human-machine interactions, making humanoid robots a promising avenue for the future. In conclusion, the development of humanoid robots represents a remarkable fusion of technology and human aspiration. This abstract offers a glimpse into the ongoing efforts to create robots that not only resemble humans in form but also in function, opening doors to a wide range of applications that stand to benefit society.

## **objectives of the project are:**

- Build a robot which can receive commands via Bluetooth and work accordingly.
- Develop an android voice app which allows the user to send commands via Bluetooth.
- Commands received by Bluetooth modem connected to the microcontroller.
- Microcontroller controls the servo motors which allow the movement of humanoid robot.

## **Major components:**

- Battery power supply.
- LM2596 Regulator.
- DS5160 Servo Motors.
- Robot Body.

### Software's used:

- Arduino IDE for compiling and dumping code into the Microcontroller.
- Express SCH for Circuit design.
- Embedded C language.

### Block diagram of the project:

